ELEMENT 4.1

MEASUREMENT AND MONITORING

Basing decisions and operational improvements on quantified environmental performance data is an important part of the EMS approach and a central feature of both quality management programs and EMSs. If the primary goal of an EMS is to improve environmental performance through consistent compliance and waste reduction, there must be measurable parameters, or metrics, that reflect environmental performance trends.

After objectives and targets are created, specific parameters must be identified and measured to track progress toward the objective and target. For example, if CN-bearing wastewater is a high-priority environmental aspect and CN-bearing wastewater reduction is an objective, with a target of 10 percent reduction in the next 12 months, then parameters must be identified and periodically measured to determine if the target is reached. In this example, typical parameters that could be included in a measurement and monitoring program are volume and concentration of CN-containing rinse water and dragout volume from CN-containing process baths.

There are also several important facility-wide metrics that should be used to monitor environmental performance. An Excel spreadsheet is included as a tool to record and chart facility metrics. Suggestions for target-specific metrics and a procedure for measuring dragout are also discussed. ISO-1

Target-Specific Metrics

Target-specific metrics are unique to your facility's objectives and targets. Examples of metrics that relate to common objectives and targets are listed below.

- Copper concentration (measured using conductivity) in final rinse after acid copper plating
- Percentage of rejected parts requiring stripping
- Duration of storage before disposal of waste sludge
- Weekly volume of chrome dragout recovered and returned to plating bath
- Concentration of cyanide in wastewater as a percentage of allowable limit

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ISO-1 **Add:** "Additionally, it is important to ensure that monitoring equipment is functioning and measuring properly by calibrating at least as frequently as manufacturing specifications recommend."

- Percentage of measurements of chrome tank surface tension below allowable limit

Dragout is the primary source of waste in metal finishing, and dragout from particular tanks is often linked to specific objectives and targets. Because of its importance for understanding process efficiency and its impact on operating costs, metal finishers should measure dragout.

Facility Metrics

Eight facility metrics that provide at-a-glance information about environmental performance are identified in the table below.

Metric	Description
Rejects/rework rate	Process rejects and associated rework generate up to three times the waste of an acceptable part because waste is generated (1) the first time the parts are processed (through dragout losses), (2) when the parts are stripped, and (3) the second time the parts are processed. Rejects also affect quality and customer satisfaction.
Water use	Water is an important natural resource used by metal finishing operations, and its use is directly related to wastewater generation. Water use objectives are common to many EMSs. The Strategic Goals Program established a water reduction goal of 50 percent from a baseline year (typically 1992).
Wastewater discharge quality	Wastewater is usually the largest environmental release from a metal finishing facility. Treated wastewater quality (measured by contaminant concentrations) is regulated by discharge permits; therefore, measurement and monitoring of contaminant concentration is important for both compliance and pollution prevention.
Treatment residuals	Wastewater treatment residuals include sludge from conventional chemical precipitation treatment systems and saturated resin canisters from ion exchange treatment systems. These waste streams contain most process chemicals lost through dragout and are therefore important metrics to track the impact of dragout reduction techniques. Treatment residuals are also expensive to manage and dispose of and present potential long-term liability concerns.
Chemical use rate	Process chemicals used in metal finishing baths are lost or "wasted" through dragout to rinse water that must be treated and discharged. If dragout is reduced, fewer chemical additions are required. This metric tracks process efficiency and waste generation from the perspective of raw material use; the monthly or weekly quantity and cost of the top five to ten process chemicals added to process baths are recorded and charted.
Bath dumps	In addition to dragout, periodic bath dumps are the other main source of metal finishing wastes. Spent baths usually require batch treatment or are bled into the on-site wastewater treatment system — both treatment methods generate a sludge requiring off-site disposal. In addition, extending bath life will reduce chemical purchases.
Energy use	Energy (electricity, natural gas, or other power source) is a primary resource used by metal finishers. Energy use is important to track the effects of efficiency initiatives.
Production	A measure of production is needed to determine whether trends in other metrics are a result of changes in production. For example, it is important to know that reductions in water or chemical use or sludge generation are caused by process changes, not production declines. Examples of production metrics are number of parts plated, revenue, number of racks processed, amp-hours.

Company Name	EMS Procedure	**4.1**
	Effective Date	
	Subject	**Measurement and Monitoring**

Purpose This procedure is used to implement a measurement and monitoring program designed to support the EMS and specific EMS objectives and targets. [ISO-1]

Step 1 The environmental manager and key facility production staff will track the following facility metrics by collecting and charting data relevant to the metric at the frequency indicated below.

Facility Metric	Data Collection Frequency
Rejects/Rework Rate	
Water Use	
Wastewater Discharge Quality	
Treatment Residuals	
Chemical Use Rate	
Bath Dumps	
Energy Use	
Production	

Step 2 The environmental manager and key production staff will identify and measure unique parameters for each EMS objective and target.

Step 3 The environmental manager or designee will measure, monitor, and record target-specific parameters at a predetermined frequency. The environmental manager will ensure that monitoring equipment is calibrated at least as frequently as recommended by the manufacturer. These records shall be retained in accordance with the company or EMS-specific record retention policy.

Step 4 The environmental manager and key facility staff will review facility and target-specific measurement and monitoring data every 3 months to identify trends, evaluate progress toward meeting EMS objectives and targets, and discuss overall

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[ISO-1] **Change from:** "This procedure…." **to:** "This procedure is used to monitor and measure on a regular basis the key characteristics of the facility's operations and activities that can have a significant impact on the environment."

environmental performance. [ISO-1]

Responsible Person:	_____
Signature and Date:	_____

[ISO-1] **Add:** "The environmental manager will also review the data to evaluate compliance with relevant environmental legislation and regulations."

ELEMENT 4.2

EMS NONCONFORMANCE AND CORRECTIVE ACTION

EMS audits, self-inspections, and day-to-day EMS procedure implementation will occasionally reveal deficiencies in the EMS or activities that do not conform to the EMS. When nonconformance is identified, corrective action must be taken to address and rectify the causes of the nonconformance and improve the EMS. [ISO-1] Examples of EMS nonconformance are described below.

Example 1: EMS procedures are not executed correctly or are not periodically reviewed by the person responsible for the procedure.

Example 2: Employees are unaware of their EMS-related responsibilities.

Example 3: Facility-wide and target-specific data are not evaluated and corrected.

Why do EMS problems occur?

- Poor communication
- Faulty or missing procedures
- Equipment malfunction (or lack of maintenance)
- Lack of training
- Lack of understanding
- Failure to enforce procedures

Procedure 4.2, EMS Nonconformance and Corrective Action, describes how and when corrective action will be taken. The procedure is implemented, in part, through the EMS Nonconformance Corrective Action form. This form should be used to document corrective actions. Specifically, the form enables you to describe the "problem" (the EMS nonconformance), the most likely causes of the problem, possible solutions, implemented solution (corrective actions), and results.

[ISO-1] **Add:** "Any corrective or preventive action taken to eliminate the causes of actual and potential nonconformances shall be appropriate to the magnitude of problems and commensurate with the environmental impact encountered."

Company Name	EMS Procedure	**4.2**
	Effective Date	
	Subject	**EMS Nonconformance Corrective Action**

Purpose This procedure is used to respond to EMS deficiencies and EMS nonconformance [ISO-1]

Step 1 Corrective action that responds to nonconformance is initiated using the attached EMS Nonconformance Corrective Action form. Nonconformances may be discovered from a variety of events including internal audits, management reviews, employee suggestions, and routine EMS procedures. The form describes the EMS nonconformance or deficiency, identifies the root cause(s) of the problem, describes the implemented solution, and summarizes the resolution of the corrective action.

Step 2 The EMS Nonconformance Corrective Action form will be signed by the environmental manager or designee.

Step 3 The responsible person must report the status of corrective actions to the environmental manager at least every 2 weeks. [ISO-2]

Step 4 Completed corrective action forms will be retained on site in accordance with the company or EMS-specific record retention policy.

[ISO-1] **Change to**: "This procedure is used to define responsibility and authority for handling and investigating nonconformance, taking action to mitigate any impacts caused and for initiating and completing corrective and preventive action."

[ISO-2] **Add:** "Step 4 When necessary, the environmental manager will make changes to the procedures associated with the nonconformance and document these changes as part of the corrective action."

EMS NONCONFORMANCE CORRECTIVE ACTION FORM

Problem Identified: _____	Resolution Due Date: _____
Problem Identified By: _____	

Problem (describe existing or anticipated problem):

Most Likely Cause(s):

Due Date: _____
Completed: _____

Possible Solution(s):

Due Date: _____
Completed: _____

Implemented Solution(s):

Due Date: _____
Completed: _____

Resolution (confirm effectiveness of implemented solutions): ISO-1

Responsible Person: _____

Signature and Date: _____

ISO-1 **Add:** Procedural change? □ Y □ N

If Yes, what procedure was changed?

ELEMENT 4.3

CORRECTIVE AND PREVENTIVE ACTION FOR COMPLIANCE

Regulatory compliance audits, self-inspections, and measurement and monitoring activities will occasionally reveal (1) instances of noncompliance with regulations, or (2) situations that are contrary to targets and objectives. When such situations occur, **corrective action** must be taken to address and rectify the causes of the noncompliance or realign actions to meet specific objectives and targets.

Preventive actions should be taken when process measurement and monitoring indicate critical processes are not operating "in control." For example, if wastewater discharge monitoring shows a steady increase in metals concentration that approach the discharge limit, preventive action should be taken to ensure that the wastewater treatment system is operating correctly. In this way, the measurement and monitoring program and preventive action are directly linked. Similarly, measurements taken to evaluate progress toward various pollution prevention targets (for example, dragout source reduction) may suggest preventive actions to ensure continued progress.

Procedure 4.3, Corrective and Preventive Action for Compliance, describes how and when actions will be taken. The procedure is implemented, in part, through the Corrective and Preventive Action form. This form should be used to document corrective and preventive actions. Specifically, the form enables you to describe the "problem" (the noncompliance event or situations inconsistent with meeting specific targets), the most likely causes of the problem, possible solutions, implemented solution (corrective actions), and results.

Company Name	EMS Procedure	**4.3**
	Effective	
	Subject	**Corrective and Preventive Action for Compliance**

Purpose This procedure is used to respond to deficiencies and noncompliance with environmental regulations.

Step 1 Preventive action or corrective action that anticipates or responds to noncompliance is initiated using the attached Corrective and Preventive Action for Compliance form. Corrective or preventive action may be initiated by a variety of events including internal audits, management reviews, employee suggestions, and routine EMS procedures. The form can be used to document the problem, identify the root cause(s) of the problem, describe the implemented solution, and summarize the resolution of the corrective action.

Step 2 The Corrective and Preventive Action for Compliance form will be signed by the environmental manager or designee and the person responsible for the actions taken.

Step 3 The responsible person must report the status of corrective actions to the environmental manager at least every 2 weeks.[ISO-1]

Step 4 Completed Corrective and Preventive Action forms will be retained on site in accordance with the company or EMS-specific record retention policy.

Responsible Person: _____

Signature and Date: _____

[ISO-1] **Add: "**Step 4 When necessary, the environmental manager will make changes to the procedures associated with the nonconformance and document these changes as part of the corrective action."

CORRECTIVE AND PREVENTIVE ACTION FOR COMPLIANCE FORM

Noncompliance or Potential Noncompliance

Problem Identified: _____	Resolution Due Date: _____
Problem Identified By: _____	

Problem (describe existing or anticipated problem):

Most Likely Cause(s):

Due Date: _____

Completed: _____

Possible Solution(s):

Due Date: _____

Completed: _____

Implemented Solution(s):

Due Date: _____

Completed: _____

Resolution (confirm effectiveness of implemented solutions): ISO-1

Responsible Person: _____

Signature and Date: _____

ISO-1 **Add:** Procedural change? □ Y □ N

If Yes, what procedure was changed?

****EXAMPLE** CORRECTIVE AND PREVENTIVE ACTION FOR COMPLIANCE FORM**

Noncompliance or Potential Noncompliance

Problem Identified: March 14, 1999 Estim. Resolution Due Date: March 21, 1999

Problem Identified By: Jim Filtercake, Wastewater Operator

Problem (describe existing or anticipated problem) Requires Corrective Action:

First quarter, 1999 wastewater sample collected and analyzed by POTW exceeds total cyanide limit: 5.5 mg/L versus limit of 5.0 mg/L. The sample was collected just from the outlet of the cyanide destruct treatment tank.

Most Likely Cause(s):

Due Date: March 15
Completed: March 15

Employee on copper cyanide plating line dumped cyanide-containing stripper into wastewater. New employee not aware of treatment/disposal process for stripper.

Possible Solution(s):

Due Date: March 15
Completed: March 16

Add instructions for stripper treatment/disposal to new employee training manual and train all employees.

Implemented Solution(s):

Due Date: March 17
Completed: March 17

(1) Retrained all platers on treatment/disposal of strippers.

(2) Platers drafted new section in employee training manual.

Resolution (confirm effectiveness of implemented solutions): Existing employees have been trained and new employees will be trained on stripper treatment/disposal using new section in manual. Reduced stripper use (and resulting dump for treatment) by 35%.

Responsible Person: _____

Signature and Date: _____

ELEMENT 4.4

RECORDS

Records management should enable you to monitor and provide evidence that your company is actually implementing the EMS as designed. Records management is often viewed as bureaucratic, but it is hard to imagine a process or system operating consistently without keeping accurate records. Good records will primarily benefit company employees while they develop, implement, review, and revise the EMS. Occasionally it may be necessary to prove the effectiveness of the EMS to people outside the company including customers, the public, or a "registrar" that has been asked to certify the EMS as conformant to an environmental standard such as ISO 14000/14001.

Basic records management is straightforward – *Procedure 4.4, Records*, describes what records you should keep, how they are kept and for how long, and how to dispose of records that are no longer needed. If your organization has an ISO 9000 management system, you should have a system for managing quality records.

Tips for Implementing a Manageable and Complete Records System:

- Focus on records that add value – avoid bureaucracy. If records have no value, do not keep them. Make the records that you do keep accurate and complete. Consider their value in ISO 14000 certification.
- Consider combining your records management systems for environmental and health and safety (as has been done in other parts of this EMS Template).
- Use a computer to maintain records and documents; make records available to employees via a designated computer or via a company network.
- Consider the need for security. Should access to some records be limited? Should duplicates of some records be maintained elsewhere?

Establish a records retention policy considering relevant regulatory requirements and stick with it.

Company Name	EMS Procedure	**4.4**
	Effective Date	
	Subject	**Records**

Purpose This procedure is used to maintain EMS records [ISO-1].

Step 1 The environmental manager and other facility personnel selected by the environmental manager are responsible for identifying records that are maintained by the company as part of the EMS.

Step 2 The environmental manager and other facility personnel will maintain all records in a single location. [ISO-2]

Step 3 The environmental manager and other facility personnel will maintain a document index of all records that are maintained as part of the EMS, the data and person responsible for the last revision, and the length of retention for each type of record.

Step 4 The environmental manager and other facility personnel will identify and note on the document index any restrictions on records necessary for security.

Step 5 The environmental manager and other facility personnel will review the records and purge obsolete records as required by the EMS.

[ISO-1] **Change from:** "maintain EMS records" **to:** "identify, maintain, and appropriately dispose of environmental records"

[ISO-2] **Change from:** "in a single location" **to**: "in a way that is legible, identifiable, and traceable to the activity, product, or service involved. The environmental manager will also ensure that records are stored in such a way that they are readily retrievable and protected against damage, deterioration, or loss. Their retention times shall also be established and recorded."

ELEMENT 4.5

AUDITS

After your organization has established its EMS, verifying the implementation and operation of the system will be crucial. To identify and resolve EMS deficiencies you must actively seek them out.

In a small organization, audits are particularly relevant since managers are often so close to the work that they may not see problems or bad habits that have developed. Periodic EMS audits will establish whether or not all requirements of the EMS are being carried out in the appropriate manner.

For your EMS audit program to be effective, you should:

- Develop audit procedures and protocols
- Establish an appropriate audit frequency
- Train your auditors
- Maintain audit records

Audit procedure should describe:

- Audit scope (areas and activities covered)
- Audit frequency
- Audit methods
- Key responsibilities
- Reporting mechanisms

To get started, consider the following questions: ISO/PT-1

- **How frequently do we need to audit?**

  As a rule of thumb, all parts of the EMS should be audited at least annually. You can audit the entire EMS at one time or break it down into discrete elements for more frequent audits. (There may be advantages to more frequent audits, but the decision is up to you.)

- **Who will perform the audits?**

ISO/PT-1 **Add:** "Does the EMS conform to planned arrangements?

The EMS should be implemented and maintained according to the planned arrangements approved by management. If the EMS gets off track, it may lose needed support of top management. Additionally, it may not fulfill the identified EMS objectives and targets."

You will need trained EMS auditors. Auditor training should be both initial and ongoing. Commercial EMS auditor training is available, but it might be more cost-effective to link up with businesses and other organizations in your area (perhaps through a trade association) to sponsor an auditor training course. A local community college may also provide auditor training.

EMS auditors should be trained in auditing techniques and management system concepts. In addition, knowledge of environmental regulations, facility operations, and environmental science is desirable, and in some cases may be essential to adequately assess the EMS. Some auditor training can be obtained on the job. Your organization's first few EMS audits can be considered part of your auditor training program (but make sure that an experienced auditor takes part in those "training" audits).

If your company is registered under ISO 9000, consider using your internal ISO 9000 auditors as EMS auditors. Although some additional training might be needed, many of the required skills are the same for both types of audits.

- **How should management use audit results?**

  Management can use EMS audit results to identify trends or patterns in EMS deficiencies. The organization must also make sure that any identified system gaps or deficiencies are corrected in a timely fashion, and that the corrective actions are documented. ISO-1

Hints:

- Your EMS audits should focus on objective evidence of conformance (if you cannot tell whether or not a particular procedure has been followed, then you should consider revising the procedure). During the actual audit, auditors should resist the temptation to evaluate why a procedure was not followed that step comes later.

Sources of Evidence
- Interviews
- Document review
- Observation of work practices

- During the course of the audit, auditors should discuss identified deficiencies with the people who work in the area; this will help the auditors verify and validate their evaluations.

- If possible, train at least two people as internal auditors. This allows your auditors to work as a team. It also allows audits to take place when one auditor has a schedule conflict (which is unavoidable in a small organization!).

- Before you start an audit, be sure to communicate the

Some Options for Auditing
- Barter for audit services with other small companies
- Use external auditors
- Have office personnel audit production areas (and vice-versa)

ISO-1 **Add:** "Additionally, management can use audit results to focus efforts of the next audits on areas of deficiency."

audit scope, schedule, and other pertinent information with the people in the affected area. This will help avoid confusion and will facilitate the audit process.

- Consider linking your EMS audit program to your regulatory compliance audit process. But keep in mind that these audit programs have different purposes, and while you might want to communicate the results of EMS audits widely within your organization, the results of compliance audits might need to be communicated in a more limited fashion (in order to maintain attorney-client or attorney work product privilege, for example).

Company Name	EMS Procedure	4.5
	Effective Date	
	Subject	**Internal EMS Audits**

Purpose This procedure is used to define the process for scheduling, conducting, and reporting periodic, internal EMS audits. Internal audits help to ensure the proper implementation and maintenance of the EMS by verifying that activities conform with documented procedures and that corrective actions are undertaken and are effective. ISO-1

Step 1 ISO-2 One or more auditors will be selected to form the audit team. If the team consists of more than one auditor, a Lead Auditor will be designated. The Lead Auditor will be responsible for audit team orientation, coordinating the audit process, and coordinating preparation of the audit report.

Step 2 The Lead Auditor will ensure that the team is adequately prepared to initiate the audit. Pertinent policies, procedures, standards, regulatory requirements and prior audit reports will be made available for review by the audit team. Each auditor will have appropriate audit training.

Step 3 The Lead Auditor is responsible for ensuring the preparation of a written plan for the audit. The Internal EMS Audit Checklist may be used as a guide for this plan.

Step 4 The plant areas and people to be audited will be notified a reasonable time prior to the audit.

Step 5 Conducting the Audit

1. A preaudit conference will be held with appropriate personnel to review the scope, plan and schedule for the audit.
2. Auditors are at liberty to modify the audit scope and plan if conditions warrant.
3. Objective evidence will be examined to verify conformance to EMS requirements, including operating procedures. All audit findings must be

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ISO-1 **Change from:** "audits of the EMS. Internal audits…." **to:** "for conducting periodic audits to determine EMS conformance to planned arrangements, including recognized EMS standards that the facility commits to and whether the EMS has been properly implemented and maintained."

ISO-2 **Add:** "Step 1 Create an audit schedule that is based on the environmental importance of the activity concerned and the results of previous audits.

documented.

4. Specific attention will be given to corrective actions for audit findings from previous audits.
5. A postaudit conference will be held to present audit findings, clarify any misunderstandings, and summarize the audit results.

Step 6. The Lead Auditor will prepare the audit report, which summarizes the audit scope, identifies the audit team, describes sources of evidence used, and summarizes the audit results.

Findings requiring corrective action will be entered into the corrective action database.

Step 7. The Environmental Manager is responsible for communicating the audit results to responsible area and/or functional management.

Step 8. Management in the affected areas and/or functions is responsible for any follow-up actions needed as a result of the audit.

Step 9. Audit reports will be retained in accordance with the company or EMS-specific record retention policy.

Responsible Person:	_____
Signature and Date:	_____

ELEMENT 4.6

MANAGEMENT REVIEW

Management reviews are the key to continuous improvement and to ensuring that the EMS will continue to meet your organization's needs over time.

Management reviews are also a good opportunity to keep your EMS efficient and cost effective. For example, some organizations have found that certain procedures and processes initially put in place were not needed to achieve their environmental objectives or control key processes. If EMS procedures and other activities don't add value, eliminate them.

The key question that a management review seeks to answer is: "Is the system working?" (for example, is the EMS suitable, adequate, and effective, given our needs?).

Hints:

- Two kinds of people should be involved in the management review process:
  - people who have the right information and knowledge
  - people who can make decisions
- Determine the frequency for management reviews that will work best for your organization. Some organizations combine these reviews with other meetings (such as director meetings), while other organizations hold "stand-alone" reviews. For ISO 9000 purposes, management reviews are typically held once or twice per year.
- Make sure that someone takes notes on what issues were discussed, what decisions were arrived at, and what action items were selected. Management reviews should be documented.
- The management review should assess how changing circumstances might influence the suitability, effectiveness, or adequacy of your EMS. Changing circumstances may be internal to your organization (for example, new facilities, new materials, changes in products or services, and new customers), or may be external factors (such as new laws, new scientific information, or changes in adjacent land use).

Review

Have we:

- ✓ Established a process for periodic reviews of our EMS?
- ✓ Documented the results of such reviews?
- ✓ Followed up on action items to ensure closure?

Many of the benefits of an EMS cannot be anticipated beforehand. You will discover them as pleasant surprises, at some point after implementation. They WILL be there.

CONGRATULATIONS!! YOU NOW HAVE ALL OF THE ELEMENTS OF AN EFFECTIVE EMS.

- Once you have documented the action items arising from your management review, be sure to follow up. Progress on these action items should be tracked.

- As you evaluate potential changes to your EMS, consider other organizational plans and goals. Environmental decision-making should be integrated into your overall management strategy.

Questions to Ponder During Management Reviews

- ✓ Did we achieve our objectives and targets? (If not, why not?) Should we modify our objectives? Should we set new objectives and targets?
- ✓ Is our environmental policy still relevant to what we do?
- ✓ Are roles and responsibilities clear and do they make sense?
- ✓ Are we applying resources appropriately?
- ✓ Are the procedures clear and adequate? Do we need others? Should we eliminate some?
- ✓ Are we monitoring our EMS (e.g., via system audits)?
- ✓ What effects have changes in materials, products, or services had on our EMS and its effectiveness?
- ✓ Do changes in laws or regulations require us to change some of our approaches?
- ✓ What stakeholder concerns have been raised since our last review?
- ✓ Is there a better way? What else can we do to improve?
- ✓ Is a new aspects or impacts analysis needed?

	EMS Procedure	**4.6**
	Effective Date	
Company Name	Subject	**Management Review**

Purpose The purpose of this procedure is to document the process and primary agenda of issues to be included in the Management Review meetings for evaluating the organization's EMS. The Management Review process is intended to provide a forum for discussion and improvement of the EMS and to provide management with a vehicle for making any changes to the EMS necessary to achieve the organization's goals.

Step 1 The Environmental Manager is responsible for scheduling and conducting a minimum of two Management Review meetings during each 12-month period. The Environmental Manager is also responsible for ensuring that the necessary data and other information are collected prior to the meeting.

Step 2. At a minimum, each Management Review meeting will consider the following:

- the suitability, adequacy and effectiveness of the environmental policy
- the suitability, adequacy and effectiveness of the environmental objectives (as well as the organization's current status against these objectives)
- the overall suitability, adequacy and effectiveness of the EMS
- the status of corrective and preventive actions and the results of any EMS audit conducted since the last Management Review meeting
- the suitability, adequacy and effectiveness of training efforts
- the results of any action items from the previous Management Review meeting

Step 3. Minutes will be taken of the Management Review. These meeting minutes will include, at a minimum, a list of attendees, a summary of key issues discussed, and any action items arising from the meeting.

Step 4. A copy of the meeting minutes will be distributed to attendees and any individuals assigned action items. A copy of the meeting minutes will be retained on file.

Responsible Person: _____

Signature and Date: _____

FACILITY HOURS TRACKING FORM

Use this form to record the labor hours spent by company staff to develop EMS procedures and use tools from the Template to implement.

Week Ending	Total Staff Hours	Comments and Lessons Learned
Example	**Tom:** 10 hours for homework and workshop attendance **Jill:** 4 hours for workshop attendance **Jim:** 1 hour for data collection and entry	Need to translate Environmental Policy into Spanish and present to line workers. Should use months as default for collecting all measurement and monitoring data.